FIVE-YEAR INDEX BY ISSUE

JOURNAL OF DYNAMIC SYSTEMS, MEASUREMENT, AND CONTROL

March 1976 through December 1980
(Vol. 98, Series G, No. 1—Vol. 102, Series G, No. 4)

March 1976: Vol. 98, Series G, No. 1
Special Issue on Ecological and Socio-Economic Systems

GUEST EDITORIAL pp. 1-4
D. P. Garg and H. M. Paynter

TECHNICAL PAPERS

Some Simple Nonlinear Dynamic Models of Interacting Element Cycles in Aquatic Ecosystems pp. 6-19
A. V. Quinlan and H. M. Paynter

Ecosystem Approach to the Simulation and Control of an Oil Refinery Waste Treatment Facility pp. 20-29
G. D. Martin, R. J. Mulholland, and K. W. Thorton

Short-Term Regulation of BOD Upsets in an Estuary pp. 30-31
R. K. Jain and M. M. Denn

A Random Differential Equation Arising in Stream Pollution pp. 32-36
W. J. Padgett and S. D. Durham

Statistical Modeling of Pharmacokinetic Systems pp. 37-43
J. O. Tsokos and C. P. Tsokos

Deterministic and Stochastic Effects in Population Dynamics pp. 44-48
G. F. Oster, D. M. Auslander, and T. T. Allen

Statistical Weather Forecasting pp. 49-55
A. Grosjean and J. L. Kueny

Comprehension of Societal Impacts Via Technology Assessment pp. 56-62
D. P. Garg

A Macroeconomic Model Displaying Growth and Cycles pp. 63-67
D. Graham and V. D. Freeman

Price Level Stabilization Experiments Using the Dynamic Phillips Curve Concept pp. 69-74
A. J. Healey and F. Medina

Optimality and Perturbational Stability of Economic Growth Trajectories pp. 75-79
W. D. O'Neill and R. F. Kosobud

Optimal Control of a National Economic System With Full Employment pp. 80-84
L. T. Yeo and K. L. Teo

Further Aspects of Turnpike Theory in Continuous Time With Applications pp. 85-90
A. Haurie and N. M. Hung

Simulation of Market Price Formation as a Game Between Stochastic Automata pp. 91-100
Y. M. El-Fattah and R. Henriksen

June 1976: Vol. 98, Series G, No. 2

PAPERS ON HISTORICAL BACKGROUND OF CONTROL THEORY

The Early Development of Control Theory pp. 109-118
A. T. Fuller

Professor Stodola's Contribution to Control Theory pp. 119-120
P. Profos

Alexandr Michailovich Liapunov (1857-1918) pp. 121-122
D. D. Siljak

Jean Baptiste Fourier, 1768-1830 pp. 123-124
Joan and Michael Rabins

THE OLDENBURGER MEDAL 1975 pp. 125-129
Presented to Dr. Hendrik W. Bode and Dr. Harry Nyquist

OTHER TECHNICAL PAPERS

Frequency-Domain Synthesis of Optimal Inputs for Linear System Parameter Estimation pp. 130-138
R. K. Mehra

Application of Optimal Input Synthesis to Aircraft Parameter Identification pp. 139-145
N. K. Gupta, R. K. Mehra, and W. E. Hall, Jr.

Distribution System Idntification: A Green's Function Approach pp. 146-151
G. R. Spalding

Design of Deadbeat Controllers and Reduced-Order Observers for Linear Multivariable Discrete-Time Plants pp. 152-155
B. Porter and A. Bradshaw

Minimal Time Start-Up Schedules for Industrial Processes With Constraint on Transient Thermal Stress in the Apparatus pp. 156-160
Stanislaw Bednardski

Stability Analysis and Optimization of By-Pass Controlled Heat Exchanger With Boiling pp. 161-166
J. S. Ansari

Optimal Command Generation for Tracking a Class of Discontinuous Trajectories pp. 167-172
S. Weissenberger

Scheduling Delays in Synchronous Transportation Networks pp. 173-179
A. L. Kornhauser and P. J. McEvaddy

On the Stability in the Sense of Liapunov of a Rubber Tire Vehicle pp. 180-185
H. K. Sachs and C. C. Chou

Analysis of a Platform for Measuring Moments and Products of Inertia of Large Vehicles pp. 186-195
D. Orne and T. Schmitz

Technical Briefs

Emission as a Performance Criteria for Adaptive Control of Road Vehicle Engines p. 196
T. N. Adams

Modeling of System Dynamics and Disturbance From Paper-Making Process Data pp. 197-194
S. M. Prandit, T. M. Goh, and S. M. Wu

September 1976: Vol. 98, Series G, No. 3

EDITORIAL: The Second Generation Reports pp. 213-214
Y. Takahashi

PAPERS ON HISTORICAL BACKGROUND OF CONTROL THEORY

A Historical Review of Autopilot Development, Research, and Theory in Germany pp. 215-223
W. Oppelt

The Early Development of Control Theory. II pp. 224-235
A. T. Fuller

FORUM

Round Three: Industrial Participation in the ACD pp. 236-237
L. L. Hoberock

System Simulation by Computers pp. 237-238
A. Frank

OTHER TECHNICAL PAPERS

Emergency Control of Vehicle Platoons: Control of Following-Law Vehicles pp. 239-244
R. J. Rouse, Jr., and L. L. Hoberock

Emergency Control of Vehicle Platoons: System Operation and Platoon Leader Control pp. 245-251
L. L. Hoberock and R. J. Rouse, Jr.

Modeling and Optimization of Economic System in Socialist Countries pp. 252-269
K. Cichocki

On Multilevel Optimization of a Combined Static and Dynamic Problem pp. 260-265
P. N. Nikiforuk, M. M. Gupta, and K. Tamura

Modeling of Enzyme Reaction Kinetics pp. 266-269
A. Cheruy

Minimax Output Feedback Regulators pp. 270-276
T. Yahagi

Performance and Stability Characteristics of an Electro-

dynamically Leviated Vehicle Over a Split Guideway pp. 277-285
J. Y. Wong, J. P. Howell, R. G. Rhodes, and B. E. Mulhall
Dynamics of Flexible Cables Under Combined Vortex and Parameteric Excitation pp. 286-290
S. A. Trogdon, J. J. Wilson, And B. R. Munson
Identification of Papermaking Process From Closed Loop Data by Bivariate Time Series Analysis pp. 291-295
M. S. Phadke and S. M. Woo
On the Identification of Noise Covariances in Continuous Linear Systems pp. 296-300
T. Yoshimura and T. Soeda
A Preliminary Analysis of Ski Release Binding Dynamic Properties pp. 301-308
C. D. Mote, Jr., and M. L. Hull
"Optimum Linear Preview Control With Application to Vehicle Suspension" Revisited pp. 309-315
M. Tomizuka

Technical Briefs

Experimental Investigation of Flow-Induced Forces in Pneumatic Spool Valves pp. 316-317
R. J. Louis and E. Logan
Transfer Functions of Hyperbolic Distributed Parameter Systems pp. 318-319
A. K. Sen

FORUM

On the Application of Modern Control to Power Plants pp. 320-321
Robert A. Smoak
The Challenge of Reliability in Steam Turbine Control pp. 321-323
P. C. Callan

PAPERS ON POWER PLANT PLANTS

Analysis of a DDC Experiment Based on State Space Methods pp. 324-331
Y. Thomas, PH. de Larminat, D. Sarlat, A. Barraud, J. Descusse, and J. M. Piasco
A Nonlinear Dynamic Model of a Once-Through Subcritical Steam Generator pp. 332-339
A. Ray and H. F. Bowman
Dynamic Testing in Nuclear Power Plants for Model Validation pp. 340-347
T. W. Kerlin, E. M. Katz, A. T. Chen, J. C. Thakkar, and S. I. Chang

December 1976: Vol. 98, Series G, No. 4

FORUM

Large Scale Systems Methodology and Urban Revitalization pp. 357-360
J. E. Gibson

TECHNICAL PAPERS

Bond Graphs for Nonholonomic Dynamic Systems pp. 361-366
F. T. Brown
An Algorithm for Automatic Reduction of Complex Signal Flow Graphs pp. 367-374
K. R. Young, L. L. Hoberock, and J. G. Thompson
The Predictions of Air Pollution Levels by Nonphysical Models Based on Kalman Filtering Method pp. 375-386
Y. Sawaragi, T. Soeda, Y. Yoshimura, S. Ohe, Y. Chujo, and H. Ishihara
Vibratory Identification of Beam Boundary Conditions pp. 387-394
A. L. Sweet, J. Genin, and P. F. Mlakar
The Dynamic Characteristics of an Electro-Hydraulic Servovalve pp. 395-406
D. J. Martin and C. R. Burrows
The Human Operator in Manual Preview Tracking (an Experiment and its Modeling Via Optimal Control) pp. 407-413
M. Tomizuka and D. E. Whitney
Closed Long Control of Spark Advance Using a Cylinder Pressure Sensor pp. 414-420
M. Hubbard, P. D. Dobson, and J. D. Powell
Dynamic Response Approximation for Noncircular Fluid Lines pp. 421-424
M. E. Franke and E. F. Moore
Analytical Model for Guideway Surface Roughness pp. 425-431
M. Bala Krishna and D. A. Hullender
Optimal Control in the Presence of Nondifferentiable State Constraints pp. 432-439
E. D. Eyman and D. P. Sudhakar

Technical Brief

On Using the ISO Standard to Evaluate the Ride Quality of Broad-Band Vibration Spectra in Transportation Vehicles pp. 440-443
Craig C. Smith

March 1977: Vol. 99 Series G, No. 1

TECHNICAL PAPERS

Predicting Response of a Proposed Hydraulic Control System Using Bond Graphs pp. 1-8
B. W. Barnard and P. Dransfield
Simulation of Bond Graphs on Minicomputers pp. 9-14
J. J. Van Dixhoorn
Generalization of Adaptive Observer and Method of Optimizing its Convergence Properties pp. 15-22
C. H. Kim and D. P. Lindorff
Dynamic Interactions Between Vehicles and Elevated, Flexible Randomly Irregular Guideways pp. 23-33
J. E. Snyder, III and D. N. Wormley
An Efficient Simulation Method for Distributed Lumped Fluid Networks pp. 34-40
R. S. Sidell and D. N. Wormley
Planar Thermic Elements for Thermal Control Systems pp. 41-47
S. Buckley and R. L. McCarthy
On the Transition of a Shaft Through Critical Speeds pp. 48-50
B. M. Naveh and R. M. Brach
State Estimation and Parameter Identification of Freely Spinning Flexible Spacecraft pp. 51-57
D. A. Johnson
Parameter Optimization for Linear Quadratic Differential Games pp. 58-62
C. T. Leondes and T. K. Siu

Technical Brief

Dynamics of an Electrohydraulic Stepping Motor pp. 63-65
M. J. Vilenius

June 1977: Vol. 99, Series G, No. 2

FORUM

Remarks: Rudolf E. Kalman/ASME Presentation Dinner/ Rufus Oldenburger Medal/December 6, 1976 pp. 73-75
John R. Ragazzini

TECHNICAL PAPERS

A Survey of Longitudinal Acceleration Comfort Studies in Ground Transportation Vehicles pp. 76-84
L. L. Hoberock
System Properties of One-Dimensional Distributed Systems pp. 85-90
L. S. Bonderson
Force Feedback Control of Manipulator Fine Motions pp. 91-97
Daniel E. Whitney
On Optimal Control Laws for a Glass of Constrained Dynamical Systems (With Application to Control of Bipedal Locomotion) pp. 98-102
M. A. Townsend and T. C. Tasi
Generalized Cumulants Representing a Transient Random Process in a Linear System pp. 103-108
Arthur Mayer
Optimization of Automotive Engine Fuel Economy and Emissions pp. 109-117
R. Prakhakar, S. J. Citron, and R. E. Goodson
Performance Standards in Dynamics pp. 118-122
N. Kamaroff
The Design of a Signal Synthesis Model Reference Adpative Control System for Linear Unknown Plants pp. 123-129
P. N. Nikiforuk, M. M. Gupta, and K. Tamura
A Pneumatic On-Off Vehicle Suspension System pp. 130-136
D. L. Klinger and A. J. Calzado

Technical Briefs

Series-Parallel and Parallel Identification Schemes for a Class of Continuous Nonlinear Systems pp. 137-140
M. Tomizuka
Bond Graph Bibliography for 1961-1976 pp. 141-142
V. D. Gebben pp. 143-145

September 1977: Vol. 99, Series G, No. 3

TECHNICAL PAPERS

An Improved Symbolic Manipulation Technique for the Simulation of Nonlinear Dynamic Systems With Mixed Time-Varying and Constant Terms pp. 157-177
C. R. Whitman and D. Dubowsky
Identification of Journal Bearing Characteristics pp. 167-173
C. R. Burrors and R. Stanway
Control of a Flexibly Mounted Stabilized Platform pp. 174-182
C. R. Burrows and T. P. Adams
Vehicle-Follower Control With Variable-Gains for Short Headway Automated Guideway Transit Systems pp. 183-184
H. Y. Chiu, G. B. Stupp, Jr., and S. J. Brown, Jr.
On the Improvement of Deconvolution With Digitized Data Using a Runge-Kutta Integration Scheme pp. 190-192
J. R. Houghton, M. A. Townsend, and P. F. Packman
Optimal Control of a Partially Time Lagged River Aeration System Subject to Random Disturbances pp. 193-200
M. K. Özgören, C. A. Cooper, and R. W. Longman
Coordination Concepts in Mutilevel Hierarchical Differential Games pp. 201-208
G. Jumarie

Technical Briefs

Process Control Experience and a Self-Tuning Method for a Discrete-Time, Finite Time Setting Controller/Observer pp. 209-210
D. M. Auslander, M. Tomizuka, and Y. Takahashi
A Note of the Early Development of Control Theory pp. 211-213
S. Bennett

December 1977: Vol. 99, Series G, No. 4

TECHNICAL PAPERS

Stochastic Linearization by Data Dependent Systems pp. 221-226
S. M. Pandit
Design of a Hardward Observer for Active Machine Tool Control pp. 227-232
E. E. Mitchell and E. Harrison
Microcomputer Implementation of Direct Digital Control Algorithms for Thermal Process Control Applications pp. 233-240
D. Jacobs and L. F. Donaghey
Vehicle-Follower Longitudinal Control for Automated Transit Vehicles pp. 241-248
R. J. Caudill and W. L. Garrard
Frequency Domain Approach to the Computation of the Impulse Response of Population Systems pp. 249-252
I. B. Huang, W. T. Chang, and F. C. Kung
Filtered Sequential Regression Parameter Identification Applied to a Gas Turbine Engine Model pp. 253-258
D. E. Warner and E. Dawson Ward
Single-Axis Gyroscopic Motion With Uncertain Angular Velocity About Spin Axis pp. 259-267
S. N. Singh
Periodic Motion of Vehicles on Flexible Guideways pp. 268-276
A. L. Doran and D. L. Mingori
Passive Suspension Design for a Magnetically Levitated Vehicle pp. 277-283
Pierre R. Bélanger and Raymond Guillemette
An Analytical and Experimental Study of Automobile Dynamics With Random Roadway Inputs pp. 284-292
A. J. Healey, E. Nathman, and P. C. Smith
A Planar Fluidic Flowmeter Applicable to Respiratory Flows pp. 293-299
G. A. Parker and A. E. Hay
Lagrange's Euqations for Complex Bond Graph Systems pp. 300-306
D. Karnopp

Technical Briefs

Deterministic Disturbance Rejection in Linear Identification pp. 307-309
M. Tomizuka and T. Takahashi
Transient Response of Fluid Lines by Frequency Response Conversion pp. 310-312
S. Katz
Comparison of Continuous and Discrete Adapative Identification Algorithms pp. 313-315
B. K. Colburn and J. S. Boland, III

March 1978: Vol. 100, Series G, No. 1

PAPERS ON TRANSPORTATION

Steering Controller Design for Automated Guideway Transit Vehicles pp. 1-8
S. E. Shladover, D. N. Wormley, H. H. Richardson, and R. Fish
Application of the Parameter Plane Method to the Analysis of Directional Stability of Tractor-Semitrailers pp. 9-17
R. R. Gunter and J. Y. Young
Power Spectral Density for Constrained Long Wavelength Guideway Irregularities pp. 18-23
M. Bala Krishna and David Hullender
Optimal Control of Flywheel Hybrid Transmissions pp. 24-33
L. M. Sweet and D. A. Anhalt
The Prediction of Passenger Riding Comfort Acceleration Data pp. 34-41
C. C. Smith, D. Y. McGehee, and A. J. Healey
Identification of the Dynamic Characteristic of a Bench-Type Automotive Seat for the Evaluation of Ride Quality pp. 42-49
C. C. Smith and Y. K. Kwak

OTHER TECHNICAL PAPERS

Simple Finite-Time Settling Control and Manipulated-Variable Softening for Reverse Reaction, Overshoot, and Oscillatory Process pp. 50-58
M. Tomizuka, D. M. Auslander, and Y. Takahashi
Developments in Nonlinear Controller Synthesis: An Overview pp. 59-69
D. P. Garg
A Bond Graph Modeling Philosophy for Thermofluid Systems pp. 70-75
D. Karnopp
On Gyrobondgraphs and Their Use pp. 76-82
R. C. Rosenburg
A Novel Pressure Transducer Using Mechanical Resonance pp. 83-87
J. Ohga and Y. Mizushima
Use of Secondary Imput for Process Control—An Application to a Digester Pulping Process pp. 88-91
T. N. Goh and S. M. Wu

Technical Brief

A Note on the Active Compensation of a Flexibly Mounted Stabilized Platform pp. 92-93
C. R. Burrows and T. P. Adams

June 1978: Vol. 100, Series G, No. 2

TECHNICAL PAPERS

Stability Tests for One, Two, and Multidimensional Linear Systems pp. 105-109
E. I. Jury
A Brief History of Electrohydraulic Servomechanisms pp. 110-116
R. H. Maskrey and W. J. Thayer
An Analysis of the Three-Way Underlapped Hydraulic Spool Servovalve pp. 117-123
C. K. Taft and J. P. Twill
A Transformation Method With Two Parameters for Constrained Optimal Control Problems pp. 124-131
S. Fujii and H. Fujimoto
Stored Response Modeling pp. 132-139
J. Eicher
Optimum Design of Control System Compensators pp. 140-151
K. A. Afimiwala and R. W. Mayne

Technical Briefs

The Generation of Continuous Gradient Functions pp. 152-153
M. A. Fuller and M. J. Grimble
A Technique for Compensating the Filter Performance by a Fictitious Noise pp. 154-156
T. Yoshimura and T. Soeda

September 1978: Vol. 100, Series G, No. 3

TECHNICAL PAPERS

Pseudo Bond Graphs for Thermal Energy Transport pp. 165-169
Dean Karnopp
The Original Machine Tool Control Problem pp. 170-176
R. A. Schlueter, E. T. Retford, and S. Van Wieren

Analysis of Leg Loading in Snow Skiing pp. 177-186
W. L. Hull and C. D. Mote, Jr.
The Use of Sensitivity Functions to Match Matrix Transfer Functions to Time-Domain Performance Criteria pp. 187-190
D. T. Papacostas and S. H. Johnson
Analysis and Design of Machine Tool Chatter Control Systems Using the Regeneration Spectrum pp. 191-200
K. Srinivasan and C. L. Nachtigal
Quasi-Time-Optimal Feedback Control of Some Fifth-Order Systems pp. 201-208
E. P. Ryan
Caratheodory Controllability Criterion for Nonlinear Dynamical Systems pp. 209-213
G. Langholz and M. Sokolov
Some Sufficient and Some Necessary Conditions for the Stability of Multivariable Systems pp. 214-218
Leang S. Shieh, Chao D. Shih, and R. E. Yates
A Control Algorithm for Reactor Spatial Control During Nuclear Station Load Cycling pp. 219-226
D. B. Cherchas and C. G. Mewdell

Technical Brief

Optimal Allocation of Actuators for Distributed-Parameter Systems pp. 227-228
Jean-Claude E. Martin

December: 1978, Vol. 100, Series G, No. 4
Special Issue On Transportation

FORUM

Transportation Research and the Role of Dynamic Systems, Measurement, and Control pp. 233-237
H. H. Richardson

TECHNICAL PAPERS

A Survey of Rail Vehicle Testing for Validation of Theoretical Dynamic Analyses pp. 238-251
N. K. Cooperrider and E. H. Law
A Parametric Study to Relate Railcar Speed to Permissible Combinations of Track Geometry Deviations pp. 252-259
F. Dimasi and H. Weinstock
Optimization of Rail Vehicle Operating Speed With Practical Constraints pp. 250-269
J. J. Cox, J. K. Hedrick, and N. K. Cooperrider
Rail Passenger Vehicle Lateral Dynamic Performance Improvement Through Active Control pp. 270-283
P. K. Sinha, D. N. Wormley, and J. K. Hedrick
Optimal Control of On-Board and Station Flywheel Storage for Rail Tansit Systems pp. 284-290
L. M. Sweet and M. J. Keane
A State-Constrained Approach to Vehicle-Follower Control for Short Headway Automated Transit Systems pp. 241-297
Alan J. Pue
Effects of Jerk Limiting on the Stability of Automated Transit Vehicles pp. 298-301
W. L. Garrad
Longitudinal Control of Automated Guideway Transit Vehicles Within Platoons pp. 302-310
S. E. Snladover
Coupled Vertical-Lateral Dynamics of a Pneumatic Tired Vehicle: Part I—A Mathematical Model pp. 311-318
N. S. Nathoo and A. J. Healey
Coupled Vertical-Lateral Dynamics of a Pneumatic Tired Vehicle: Part II—Simulated Versus Experimental Data pp. 319-325
N. S. Nathoo and A. J. Healey
Stability of a Vehicle on a Multispan Simply Supported Guideway pp. 326-332
Y. I. Chung and J. Genin
Magnetic Suspension for Low-Speed Vehicles pp. 333-342
P. K. Sinha

March 1979: Vol. 101, No. 1

RUFUS OLDENBURGER AWARD
Presented to Professor Yasundo Takahashi

FORUM

On the 1978 ASME Winter Annual Meeting Forum Theme—"Measurement and Control Serving Mankind" pp. 4-15
M. J. Rabins
Controlling and Measuring for Energy Conservation
E. Jacob
The Impact of LSI Technology on Control Engineering
Y. Takahashi
Discrete Parts Assembly Automation—An Overview
D. E. Whitney

TECHNICAL PAPERS

Measurement of Energy Resources pp. 16-30
M. K. Hubbert
Harmonic Analysis of Dynamic Systems With Nonsymmetric Nonlinearities pp. 31-36
P-T. D. Spanos and W. D. Iwan
Graphical Solutions for the Characteristic Roots of the First Order Linear Differential-Difference Equation pp. 37-43
G. M. Sandquist and V. C. Rogers
A Feedback Vibration Controller for Circular Saws pp. 44-49
R. W. Ellis and C. D. Mote, Jr.
Bond Graphs for Flexible Multibody Systems pp. 50-57
D. L. Margolis and D. C. Karnopp
Distillation Columns—A Class of Dynamic Systems With Multiplicative Inputs pp. 58-63
M. Espana and I. D. Landau
Closed Loop, Knock Adaptive Spark Timing Control Based on Cylinder Pressure pp. 64-70
R. J. Hosey and J. D. Powell
An Air-Moudulated Fluidic Fuel-Injection System pp. 71-76
R. L. Woods

Technical Brief

Basic Design Concepts of Laminar Fluidic Digital Logic Elements Using Laminar Proportional Amplifiers With Positive Feedback pp. 77-80
G. Mon

June 1979: Vol. 101, No. 2
Special Issue on Applications of Optimal Control

FORUM

About this Special Issue pp. 89-90
M. Tomizuka and D. M. Auslander

TECHNICAL PAPERS

Some Connections Between Modern and Classical Control Concepts pp. 91-98
A. E. Bryson, Jr.
Computational Techniques in Optimal State-Estimation—A Tutorial Review pp. 99-107
W. Kortüm
Experience With Experimental Applications of Multivariable Computer Control pp. 108-116
D. E. Seborg and D. G. Fisher
Optimal Control of Turbine Engines pp. 116-126
R. L. DeHoff and W. Earl Hall, Jr.
Optimal Control Concepts for the Characterization and Design of Highway Vehicle-Trailer Systems pp. 127-137
M. A. Townsend, A. B. Shapiro, and K. T. A. Ho
An Optimal Standard for Solar Heating Systems pp. 138-149
D. M. Auslander, M. Tomizuka, and H. Lee
Time Optimum Control of a Two Capacity Thermal Environmental System With Louvers pp. 150-156
Yucel Ercan
Optimal Control of Sun Tracking Solar Concentrators pp. 157-161
R. O. Hughes
Application of Optimal Preview Control to Power Plant Cooling Systems pp. 162-171
D. R. Gunewardana, M. Tomizuka, and D. M. Auslander
On the Optimal Digital State Vector Feedback Controller With Integral and Preview Actions pp. 172-178
M. Tomizuka and D. E. Rosenthal

September 1979: Vol. 101, No. 3

FORUM

On the Order of a Physical System Model pp. 185-186
D. Karnopp

TECHNICAL PAPERS

Analysis of Massless Elastic Chains With Servo Controlled Joints pp. 187-192
W. J. Book
The Application of Model-Referenced Adaptive Control to Robotic Manipulators pp. 193-200
S. Dubowsky and D. T. DesForges
State Variables and Pseudo Bond Graphs for Compressive Thermofluid Systems pp. 201-204
Dean Karnopp
Compensation of the Speed Governor of a Water Turbine by the Method of Inequalities pp. 205-211
C. A. D. Coelho
Guaranteed Asymptotic Stability for Some Linear Systems With Bounded Uncertainties pp. 212-216
G. Leitmann

PAPERS ON TRANSPORTATION

Controlled Dynamic Characteristics of Ferromagnetic Vehicle Suspensions Providing Simultaenous Lift and Guidance pp. 217-222
D. A. Limbert, H. H. Richardson, and D. N. Wormley
A Dynamics Simulation for a High Speed Magnetically Leviated Guided Ground Vehicle pp. 223-229
D. B. Cherchas
Nonlinear Analysis of Rail Vehicle Forced Lateral Response and Stability pp. 230-237
J. Karl Hedrick and A. V. Arslan
Nonlinear Wheelset Forces in Flange Contact Part 1: Steady State Analysis and Numerical Results pp. 238-246
L. M. Sweet and J. A. Sivak
Nonlinar Wheelset Forces in Flange Contact Part 2: Measurements Using Dynamically Scaled Models pp. 247-255
L. M. Sweet, J. A. Sivak, and W. F. Putman
Steering and Stability of Unsymmetric Articulated Rail Vehicles pp. 252-262
A. H. Wickens
Comparative Study of the Linear and Non-Linear Locomotive Response pp. 263-271
E. H. Chang, V. K. Garg, C. H. Goodspeed, and S. P. Singh

Technical Brief

Application of Sensitivity Analysis to Car-Trailer Stability pp. 272-274
E. C. Mikulcik

December 1979: Vol. 101, No. 4

FORUM

Comments on "Should Engineers Receive Training or Education in Aspects of Public Policy?" p. 283
R. Eugene Goodson

TECHNICAL PAPERS

Design of a Practical Controller for a Commercial Scale Fossil Power Plant pp. 284-289
A. Ray and D. A. Berkowitz
Robust Multivariable Controllers for a Tubular Ammonia Reactor pp. 290-298
N. Viswanadham, L. M. Patnaik, and I. G. Sarma
Design of Multivariable Controllers for an Advanced Turbofan Engine by Zakian's Method of Inequalities pp. 299-307
O. Taiwo
An Elastic Analyis of Multiroll Endless Web Systems pp. 308-313
Tsai, Chen Soong and Chun Li
Vehicle-Follower Control for Dynamic Entrainment of Automated Guideway Transit Vehicles pp. 314-320
S. E. Shladover
Two-Dimensional Dynamics of Tracked Ram Air Cushion Vehicles With Fixed and Variable Winglets pp. 321-331
L. M. Sweet, H. C. Curtiss, Jr., and R. A. Luhrs
Simulation and Control Synthesis of Manipulator in Assembling Technical Parts pp. 332-338
D. Stokić and M. Vukobratović
A Simple Digital Control Scheme for a Class of Multi-Input, Multi-Output Industrial Processes pp. 339-344
M. Tomizuka
Parameter Optimization for Two-Player Zero-Sum Differential Games pp. 345-349
J. Dolezal
Observer Design for the Minimum-Time State Reconstruction of Linear-Discrete-Time Systems pp. 350-354
John O'Reilly
Indirect Control of the Forces of Constraint in Dynamic Systems pp. 355-360
H. Hemami and B. F. Wyman

Technical Brief

An Adaptive Control Policy of Discrete-Time Linear Systems With Random Parameters pp. 361-363
Toshio Yoshimura, Masanori Kiyota, and Takashi Soeda

March 1980: Vol 102, No. 1

FORUM

Computer-Aided Manufacturing and Control in Lumber Manufacturing pp. 1-2
C. L. Nachtigal

TECHNICAL PAPERS

Acceleration Profiles for Minimizing Residual Responses pp. 3-6
D. M. Aspinwall
On the Simplification of Transfer Fucntions of Linear Dynamical Systems pp. 7-12
Takashi Yahagi
Measurement Errors in Closed-Loop Frequency Response Estimates pp. 13-20
P. W. Davall and P. N. Nikiforuk
Design and Application of Controllers and Observers for Disturbance Minimization and Pole Assignment pp. 21-27
S. L. Shah, D. E. Seborg, and D. Grant Fisher
New Results on Optimal Joint Parameter and State Estimation of Linear Stochastic Systems pp. 28-34
G. Salut, J. Anguilar, and S. Lefebvre
Analysis of Dynamic Systems Using Heuristic Optimization pp. 35-40
N. A. Langrana and T. W. Lee

Technical Brief

The Elimination of Positivity Condition for Continuous System Identification pp. 34-42
C. C. Hang

June 1980: Vol. 102, No. 2

RUFUS OLDENBURGER AWARD
Presented to Professor Henry M. Paynter

FORUM

Microprocessors in Mechanical Engineering Education pp. 59-60
P. M. Lynch
Survey of Microcomputer Education in Mechanical Engineering Departments pp. 60-61
C. W. de Silva

TECHNICAL PAPERS

Application of Microcomputers to Automatic Weld Quality Control pp. 62-68
M. Tomizuka, D. Dornfeld, and M. Purcell
On-Line Computational Scheme for Mechanical Manipulators pp. 69-76
J. Y. S. Luh, M. W. Walker, and R. P. C. Paul
Model-Reference Longitudinal Control for Automated Vehicle Systems pp. 77-84
R. J. Caudill and S. L. Blasnik
Coupled Lateral-Vertical Dynamics of Rubber-Tired Automated Guideway Transit Vehicles With Random Guideway Inputs pp. 85-93

Y. K. Kwak and C. C. Smith
Bond Graphs for Distributed System Models Admitting Mixed Casual Inputs pp. 94-100
D. L. Margolis
A Series-Parallel Identifier With Auxiliary Signals pp. 101-105
C. S. Baradello and C. P. Neuman
Optimum Design of Control System Compensators by Geometric Programming pp. 106-113
E. V. Bohn
Whistling Instability in Idling Circular Saws pp. 114-122
C. D. Mote, Jr. and M. C. Leu
Identificaton of Lower Extremity Dynamics During Snow Skiing pp. 123-129
C. W. Lee and C. D. Mote, Jr.
Hunting of Evaporators Controlled by a Thermostatic Expansion Valve pp. 130-135
P. M. T. Broersen and M. F. G. van der Jagt

September 1980: Vol. 102, No. 3

TECHNICAL PAPERS

Analysis of Flow Control in Alternative Manufacturing Configurations pp. 141-147
J. J. Solberg and S. Y. Nof
Optimal Observer Design With Specified Eigenvalues for Time-Invariant Linear Systems pp. 148-150
F. C. Kung and Y. M. Yeh
Model Cost Analysis for Linear Matrix-Second-Order Systems pp. 151-158
R. E. Skelton and P. C. Hughes
Parameter Estimation of Delay Systems Via Block Pulse Functions pp. 159-162
Yen-Ping Shih, Chyl Hwang, and Wei-Kong Chia
A Modified Volterra Series Representation for a Class of Single-Valued, Continuous Nonlinear Systems pp. 163-167
G. A. Parker and E. L. Moore
An Active and Passive Steering Controller Study of Rubber-Tired Automated Guideway Transit Vehicles pp. 168-173
Y. K. Kwak and C. C. Smith
Electro-Fluid Four-Way On-Off Pneumatic Valve pp. 174-179
C. K. Taft and T. J. Harned
Dynamical Models for Multidimensional Structures Using Bond Graphs pp. 180-187
D. L. Margolis

Technical Briefs

An Optimal Preview Control for Linear Systems pp. 188-189
C. C. MacAdams
Asymptotic Theory of Freight Car Hunting pp. 190-192
A. M. Whitman
Geometric Series Approach for Approximation of Transition Matrices in Quadratic Synthesis pp. 193-197
L. S. Shieh, W. B. Wai, and R. E. Yates

December 1980: Vol. 102, No. 4

TECHNICAL PAPERS

Technical Briefs